

REMARKS

Claims 11-22 are pending in the application. The Examiner has objected to Claims 18 and 20-22 for informalities. By this amendment, Applicants are submitting amendments to Claims 18 and are canceling Claim 19, which obviate the need to correct the informalities. Applicants believe that the amendments address the Examiner's concerns and respectfully request withdrawal of the objections.

The Examiner has rejected Claims 14-17 under 35 USC 112, as failing to comply with the enablement requirement in the recitation of "wherein said notifying comprises assembling and transmitting a...message...[to] said user." Applicants respectfully assert that the subject matter was described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. Applicants first point to the many passages in the specification in which user notification is discussed, including page 8, lines 7-8 wherein the PRINT construct is described for displaying results to a user; page 9, lines 6-7 wherein the contents of the STDOUT buffer 306 are displayed to the user; page 10, lines 14-16 wherein at step 16 the AES 120 notifies the user; page 12, line 13 at which the Desktop Server requests input from the user; and, page 13, lines 5-8 at which script 302 sends notification to the user. Clearly, user notification is disclosed. Applicants

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further assert that the specification is enabling since the referenced notification means, including a desktop display, a beeper, a pager, e-mail, a smart phone or a handheld portable mobile device, all have messaging and display capabilities which are well-understood by those having skill in the relevant art. The claimed assembling and transmitting steps for notifying the user are well within the purview of one having skill in the art and reading the subject specification.

Applicants support the contention that the description is adequate by reference to the passage on page 47 of the Chess article (further discussed below) which is quoted by the Examiner for teaching that "it can alert the user to reconnect by using the services of the predetermined AMP to send a 'page' to the client." The Chess teaching further evidences the fact that notifying with a pager or other available messaging device is within the scope of one having skill in the art.

Applicants further support the contention that the description is adequate by reference to the Examiner's statement on page 10 of the Office Action wherein the Examiner states that "it would have been obvious to one skilled in the art at the time the invention was made to assemble and transmit a message to an electronic means such as a pager, beeper, electronic mail, or smart telephone...". Clearly if the claim language is arguably obvious, it is enabling! Applicants respectfully assert that the

language is enabling and respectfully request reconsideration of the 112 rejections and withdrawal of same.

The Examiner has rejected Claims 11-13, and 18-19 under 35 USC 102(e) as anticipated by Chess; and, has rejected Claims 14-17, and 20-22 under 35 USC 103 as being unpatentable over Chess. For the reasons set forth below, Applicants believe that the claims are patentable over the cited art.

The presently-claimed invention provides a method and computer program data structure for enabling a user to provide input values to a running program after the program has begun running by prior to the program requesting those input values. The method steps, as recited in Claim 11, include maintaining a bag buffer of variable/value pairs in the program, wherein user input values are substituted for program variables during program execution, receiving a communication, including input values, from the user, and temporarily storing the input values in the bag buffer until those value are need by the program. Similarly, the structure as recited in Claim 18 comprises an output buffer for storing output values to be displayed to a user; a bag buffer for storing variable/value pairs for use by the program; an input buffer for storing values for which user input of variables is required; and a program state buffer for storing at least the present state of the program.

The Chess article is directed to the use of itinerant agents for mobile computing. The itinerant agents are described as

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"programs, dispatched from a source computer, that roam among a set of networked servers until they accomplish their task." Under the Chess teachings, an itinerant agent is initialized with a user's task and is dispatched to accomplish the task. When creating a task for the itinerant agent, the user employs a form or dialogue to input the task specification, which is then converted into a transaction agent program capable of executing the task. All user input is conducted prior to running of the program. The Chess article does not specify how user input is stored. Further, the Chess article does not teach whether user input, such as user preferences, is used for program execution. Applicants disagree with the Examiner's interpretation of the Chess teachings.

With regard to the language of the method claims, Claims 11-17, Applicants respectfully assert that the Chess article does not anticipate the invention as set forth in the independent claim. Claim 11, as amended, recites a method for enabling a user to provide input values as variables to a running program after said program has begun running and before the program needs the input values, wherein user input values are substituted for program variables during program execution, comprising the steps of maintaining a bag buffer of variable/value pairs for use in executing the program in the program; receiving a communication, including input values, from the user; and temporarily storing said input values for said variables as variable/value pairs in

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said bag buffer. Applicants contend that the Chess article does not teach or suggest providing input values as variables to a running program, wherein the user input values are substituted for variables during program execution. Chess provides all input to the itinerant agent prior to task execution, and in fact prior to instantiation of the itinerant agent. Clearly Chess does not anticipate enabling a user to provide input values to a running program.

Applicants further assert that Chess does not anticipate providing values for variables wherein the values will be substituted for variables during program execution. The cited Chess teachings simply states that the Transaction Agent is given the user's preferences (page 36, right column, last paragraph), but does not teach or suggest that those user preferences be used during task execution by the itinerant agent. While Chess says that the user's preferences are "expressed as rules", Applicants respectfully assert that Chess does not teach that the user's preferences are used as input values for program execution. The rules may, as with the previously-cited Peckover patent, simply be used to order search results. Absent some express teachings, it cannot be maintained that Chess anticipates the claim language, which explicitly recites storing input values in variable/value pairs for use in executing the program.

Applicants further assert that Chess does not anticipate the claimed step of maintaining a bag buffer of variable/value pairs

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for use in executing the program in the program. As noted above, the Chess article does not provide any details of how user input information (e.g., the user preferences) are stored. The cited "goals and status information" from page 39, illustrated in Figure 2 of Chess, provides a very vague description of an agent's structure, but clearly does not teach or suggest storing variable/value pairs in a bag buffer, wherein the user input values are to be substituted for program variables during program execution.

Applicants further assert that the Chess article does not anticipate the claimed steps of receiving a communication during program execution, including input values, from the user and temporarily storing said input values for said variables as variable/value pairs in the bag buffer. Chess has the stated intention of providing a mechanism for an itinerant agent to receive user input at agent initialization and be dispatched without any further user input. There is nothing in the Chess article which either teaches or suggests providing user input during program execution.

With regard to the structure claims, independent Claim 18 and those claims which depend therefrom and add further limitations thereto, Applicants assert that Chess does not provide any details for storage of data. Chess does not teach or suggest an output buffer, an input buffer, a program state buffer, and a bag buffer as claimed. Applicants reiterate that

Chess does not store variable/value pairs of data, which data is needed for execution of the program. The stored variable/value pairs of the present invention are provided by the user and stored for use by the program while the program is running, but prior to when the program actually needs the variables/values. There is simply nothing in the cited Chess teachings which anticipates or obviates that claim language. In rejecting the claimed output buffer, the Examiner states that a "client sends its agent...to retrieve the latest version of a technical paper...[serving] as a courier...for data and program content." Applicants fail to see how that statement anticipates the claimed output buffer for storing program execution output values to be displayed to a user.

With respect to the claimed input buffer, the Examiner has cited the Chess teaching that "the agent is initialized with the user's task" and the passage on page 35 about the task specification. However, Chess does not teach or suggest an input buffer for storing values based on user input of values for variables required by an already running program, wherein user input values are substituted for program variables during program execution, said input buffer being accessed by said agent execution shell to communicate values for the input variables to the agent for present use by the agent during program execution. All that Chess states is that the user uses a form to "state his

need". Such teachings clearly do not anticipate the claimed input buffer.

With regard to the program state buffer for storing at least the present state of said program, the Examiner has cited the Chess statement that "when the agent has successfully completed its task...it may collect its state." Chess does not, however, teach a program state buffer.

Finally, with regard to the claim feature of a bag buffer for storing variable/value pairs for later use by the agent in executing the program, Applicants reiterate the arguments presented above, that Chess does not teach how user preferences are stored, and clearly does not teach a bag buffer for storing variable/value pairs for use in executing the program. Applicants note that the Examiner cites the Chess statement that "the agent is initialized with the user's task" against the bag buffer. The Examiner has also cited the exact same language against the input buffer. Since Applicants are clearly reciting two distinct components, Applicants respectfully assert that one Chess teachings cannot anticipate two distinctly claimed components of the structure. The Examiner again cites the "goals and status information" which also does not anticipate a bag buffer for storing variable/value pairs.

It is well established under U. S. Patent Law that, for a reference to anticipate claim language under 35 USC 102, that reference must teach each and every claim feature. Since the

Chess article does not teach a bag buffer, as part of a program, does not teach storing variable/value pairs in the bag buffer for use in executing the program, does not teach the user input of values during program execution but before the program needs the values, does not teach automatically accessing variables, and updating or disposing of input values, in response to a request for variables by the program, and does not teach a program state buffer in conjunction with input, output and bag buffers, it cannot be maintained that the Chess article anticipates the invention as claimed in Claims 11-13 and 18.

Applicants further assert that the Chess article does not obviate the invention as set forth in the pending claims. Applicants rely on the arguments set forth above with regard to the language of the independent claims. Further, Applicants respectfully assert that Chess does not teach or suggest the invention as set forth in dependent Claims 14-17 and 20-22. With regard to Claims 14-17, the Examiner has acknowledged that Chess does not expressly disclose notifying with the claimed electronic means yet has failed to cite any Chess teachings against the claim language. Rather, the Examiner states that "it would have been obvious to one skilled in the art at the time the invention was made to assemble and transmit a message to an electronic means such as a pager, beeper, electronic mail, or smart telephone..." (page 10 of the Office Action). Applicants contend that obviousness cannot be maintained without some teaching or

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suggestion of the claim features. Applicants further maintain that it would not be obvious to provide the claimed notifying in conjunction with the additionally recited claim features of maintaining the bag buffer, receiving a communication, temporarily storing the input values, searching the bag buffer, and updating variables and/or disposing of input values. Clearly, therefore, Chess does not teach or suggest the invention as set forth in Claims 14-17. Applicants respectfully request reconsideration of the rejections of these claims. Applicants believe that the response to this reconsideration request should be in the form of a *non-final* response, since the Examiner did not appropriately provide any rejection of Claims 14-17 to which Applicants can respond.

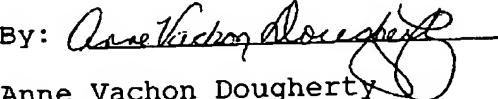
With regard to Claims 20-22, Applicants disagree with the Examiner's conclusion that the claim language is obvious. Again the rejection has been made without any citation of teachings from the Chess article. Chess simply illustrates, at Figure 2, a sequence of blocks. Chess does not teach or suggest an array data structure, a hash table data structure, or a tuple space data structure, as recited in the language of Claims 20-22. Applicants respectfully request reconsideration of the rejections of these claims. Applicants believe that the response to this reconsideration request should be in the form of a *non-final* response, since the Examiner did not appropriately provide any rejection of Claims 20-22 to which Applicants can respond.

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Based on the foregoing amendments and remarks, Applicants respectfully request entry of the amendments, reconsideration of the rejections, withdrawal of the rejections, and issuance of the claims.

Respectfully submitted,
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